

the status information as a printing data file based on image data, as stated later on, it is not necessary to generate printing images from the contents of a page description language. Neither is it necessary to store font data in the ROM. The CPU 31 is required to perform simple processing. This makes it possible to reduce the cost of the printer 30.

The firmware in the printer 30 consists of modules as shown in Fig.3. When the printer 30 is booted, a status information acquisition module 33b on the printer's side accesses the printer controller 35 and the memory 34 through the system bus 32, and then acquires the status information data on the "optional paper feeder currently used" and the "mounted memory size", which obviously corresponds to the fixed status data. The status information acquisition module 33b also accesses the printer controller 35 through the system bus 32 and acquires, every time the system is updated, the status information data on the "toner remaining", the "life of consumable supplies such as the photo conductor", the "total number of sheets printed", the "type of paper mounted", and "whether printing can be performed or not". The status information data thus acquired by the status information acquisition module 33b on the printer's side is stored in the status information memory 34a. The status information to be acquired is not limited to the foregoing, but might additionally include the data on "whether the printer is

jammed or not" and the "power-saving mode".

The output initiation instruction module 33a confirms whether the switch 36 is pushed or not. When the switch 36 is pushed, the output initiation instruction module 33a judges that an output initiation instruction is given. Then, the output initiation instruction module 33a outputs through the parallel communication I/O interface 37 a trigger that represents status information printing initiation. After the trigger is outputted by the output initiation instruction module 33a, the status information output module 33c communicates with the host computer 10 through the parallel communication I/O interface 37 and transmits, in the binary form in the predetermined communication mode, the data written on the status information memory 34a. The status information acquisition module 33b on the printer's side once writes the data on the status information memory 34a. Alternatively, because it is desired that the capacity of the RAM be minimized to provide a low cost model printer, the acquired data might be sequentially transmitted from the parallel communication I/O interface.

If the status information data is transmitted in this way, the printer 30 can print the status information as the normal printing job because the status information data is returned as a printing data file from the host computer 10 through the parallel communication I/O interface 37, as stated later on. In

other words, the printing data file 50 is transmitted from the host computer 10 and received by the printer 30 under the control of the printing module 33d through the parallel communication I/O interface 37.

The printing module 33d writes the acquired printing data file 50 in the buffer memory 34b, controls the printer controller 35 to drive the printing drive mechanisms of the printer 30, and then prints the data written in the buffer memory 34b. In this embodiment, the printing data is received as a printing file. However, band printing might be performed, in which the 1-page-long printing data is divided into several parts, to decrease the capacity of the buffer memory 34b.

In the host computer 10, as shown in the Fig. 2, the printer driver 21 is incorporated into the operating system 20. The printer driver 21 holds two-way communication with the printer 30 through the parallel communication I/O interface 19b and makes the printer 30 print the status information. This process is implemented while the output initiation instruction monitor module 21a, the status information acquisition module 21b on the host side, the printing data generation module 21c and the printing data output module 21d of the printer driver 21 are inputting status information data into and outputting status information data from the registry 22 and referring to the status sheet default file 51.